

WHAT WE CLAIM IS:

1. An etching substrate material comprising a metal substrate material which is to be provided thereon a pattern by coating a photosensitive resin layer formed thereon, and  
5 exposing the photosensitive resin layer to light to form a resist pattern, followed by etching, characterized in that said etching substrate material has a center line-average surface roughness Ra of up to  $0.10\ \mu\text{m}$  and a maximum surface roughness Rmax of up to  $1.0\ \mu\text{m}$ .
- 10 2. The etching substrate material according to claim 1, characterized in that a surface roughness of said metal substrate material has been regulated by at least one process selected from the group consisting of rolling, chemical polishing, physical polishing, and electrolytic polishing.
- 15 3. The etching substrate material according to claim 1, characterized in that said metal substrate material is a substrate material for a shadow mask, an aperture grill or a lead frame.
4. The etching substrate material according to claim  
20 2, characterized in that said metal substrate material is a substrate material for a shadow mask, an aperture grill or a lead frame.
5. An etching process of exposing to light a photosensitive resin layer formed on a metal substrate  
25 material to form a resist pattern thereon, and carrying out etching to form a pattern on said metal substrate material, characterized in that said photosensitive resin layer is formed on a metal substrate material having a center line-

average surface roughness Ra of up to 0.10  $\mu\text{m}$  and a maximum surface roughness Rmax of up to 1.0  $\mu\text{m}$  to form a resist pattern, followed by etching.

6. An etching process of exposing to light a  
5 photosensitive resin layer formed on a metal substrate material to form a resist pattern thereon, and carrying out etching to form a pattern on said metal substrate material, characterized in that after degreasing of said metal  
substrate material, said metal substrate material is surface-  
10 treated with a first etchant to regulate a center line-average surface roughness Ra and a maximum surface roughness Rmax to up to 0.10  $\mu\text{m}$  and up to 1.0  $\mu\text{m}$ , respectively, and a photosensitive resin layer is thereafter formed and developed on said metal substrate material to form a resist pattern  
15 thereon, followed by etching.

7. The etching process according to claim 6, characterized in that said first etchant comprises an aqueous solution of ferric chloride having at least 50° Bh.

8. The etching process according to claim 5,  
20 characterized in that said metal substrate material is a substrate material for a shadow mask, an aperture grill or a lead frame.

9. The etching process according to claim 6, characterized in that said metal substrate material is a  
25 substrate material for a shadow mask, an aperture grill or a lead frame.

10. The etching process according to claim 7, characterized in that said metal substrate material is a

substrate material for a shadow mask, an aperture grill or a lead frame.

11. An article obtained by exposing to light a photosensitive resin layer formed on a metal substrate  
5 material to form a resist pattern, followed by etching, characterized in that said metal substrate material has a center line-average surface roughness Ra of up to 0.10  $\mu\text{m}$  and a maximum surface roughness Rmax of up to 1.0  $\mu\text{m}$ .

12. The article according to claim 11, characterized in  
10 that said article is a shadow mask or an aperture grill.